

REMARKS

This paper is submitted in reply to the Office Action dated August 10, 2004, within the three-month period for response. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, claims 1-9, 11-19 and 21-24 were rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,092,046 to Okuda (Okuda). Although the Office Action objected to claims 10 and 20 by virtue of their dependency on rejected base claims, Applicants appreciate the Examiner's acknowledging the allowable subject matter in each of those objected-to claims.

Applicants respectfully traverse the rejections and objections, as the cited reference does not disclose or suggest the invention as recited in any of the pending claims. However, each of the pending independent claims have been amended to include the subject matter acknowledged by the Examiner as being allowable. More particularly, allowable subject matter from (now cancelled) claim 20 has been rewritten in independent claims 1, 11 and 22. Consequently, Applicants respectfully submit that those claims, as well as those that depend therefrom, are in condition for allowance.

More particularly, claim 1 is directed to a method that capitalizes on the exclusivity of certain audio processes to dynamically share memory block resources. Prior to the present invention, memory was allocated to audio frames without regard to the post-processing technique (surround sound processes, matrixing, center channel equalizing, bass management, etc.) ultimately used on the frame. Many of these post-processes require buffering of select frames to achieve their desired effect. For instance, surround sound relies on time delays to create a three-dimensional effect. This required temporary storage conventionally exceeded the on-chip memory of DSP's, requiring additional memory and associated inefficiencies. The method of claim 1 takes advantage of the fact that certain of these post-processing techniques are exclusive (execute at different times) by buffering frames associated with exclusive processes to a common

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memory block (instead of two different blocks), maximizing available memory utilization. To this end, the claim 1 recites respectively associating first and second audio frames with first and second audio processes. The first and second audio processes execute at different times and are allocated the same memory block. Claim 1 as amended additionally recites switching between the first and second processes at a boundary of the first frame.

Okuda does not teach or suggest the claimed features recited in claim 1. The absence of the claimed features is attributable to the disparate purpose of Okuda. Rather than maximizing the use of existing memory blocks, Okuda teaches creating new memory regions (column 4, lines 16-29). By creating new "fractional bank" memory regions, unused fractional banks become writable (column 4, lines 26-38). Allocation and creation of fractional banks is accomplished irrespective of post-processing techniques. That is, Okuda is unconcerned with post-processing techniques in terms of allocating memory to audio frames. In fact, the only consideration given to post-processing by Okuda requires the additional creation of fractional banks to accommodate buffering delays (column 10, lines 20-27). As such, the Okuda system could actually benefit from the processes of the present invention, in that its frames could be associated with different processes and allocated to the same fractional bank or memory region. Applicants consequently submit that claim 1 is novel and non-obvious over Okuda, and request reconsideration and allowance of claim 1, as well as of claims 3-8 and 10 that depend therefrom.

Claim 11 is a hardware implementation of the method of claim 1. Claim 11 is therefore novel and non-obvious for at least the same reasons as stated above in connection with claim 1. Applicants consequently request reconsideration and allowance of claim 11, as well as of claims 12-17 and 19 that depend therefrom. Claim 22 is similarly directed to a program product implementation of the method of claim 1, and is

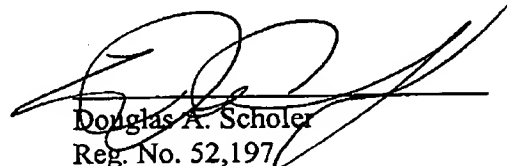
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therefore allowable, along with its respective dependent claims 23 and 24, for at least the same reasons as described above.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

11/10/04
Date


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